

# Chlor-Alkali Facility Superfund Site Berlin, NH

Community Update  
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Superfund Records Center

SITE: CHLOR-ALKALI

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The United States Environmental Protection Agency placed the Chlor-Alkali Facility in Berlin, New Hampshire on the National Priorities List (NPL) in September 2005. The NPL, also known as the Superfund list, is a list of hazardous waste sites that are eligible for federal funding to pay for investigation and long-term cleanup actions under the Superfund Program. The primary goal of the Superfund program is to protect the public's health and the environment.

## Site History

The former Chlor-Alkali facility is on an approximately 4.6 acre property located on the east bank of the Androscoggin River just downstream of the Sawmill Dam in Berlin, New Hampshire. From the late 1800s to the 1960s, chlorine and other chemicals (e.g., caustic soda, hydrogen, chloroform) were produced using electrolytic cells in "cell houses" on the property. Diaphragm cells, and also possibly mercury cells, produced chlorine for use in the manufacture of paper. Most of the onsite structures were razed and buried on site in the 1960s. In 1999, the last cell house was demolished and most of the property was capped. The property is currently vacant and owned by the bankrupt Pulp and Paper of America, LLC.

## Threats and Contaminants\*

Residual wastes from the manufacture of chlorine (principally mercury, lead, dioxins, and furans) and other site activities have resulted in the contamination of ground water and soils on the property and in sediments of the adjacent Androscoggin River at concentrations significantly above background levels. In addition, beads of mercury can be seen seeping into the river from cracks in the bedrock at the edge of the property.

## Potential Impacts on Surrounding Community/Environment

There is currently a fish consumption advisory for the

Androscoggin River from Berlin down stream to the Maine border due to elevated concentrations of dioxins (NH DES Bureau of Environmental & Occupational Health fact sheet on "Mercury and Other Pollutants in Fish"). All populations are advised against consuming any fish from that portion of the river. People who disregard the advisory and eat fish caught in this segment of the river could be exposed to contaminant levels that exceed safe eating guidelines. Seven rare bird species are known to live or feed close to the Androscoggin River near the site and could, therefore, be harmed by contaminants being released from the site. These species include the bald eagle, peregrine falcon, common nighthawk, northern harrier, osprey, common loon, and Cooper's hawk.

**For more information on Fish Consumption  
Advisories in the State of New Hampshire, go to:**

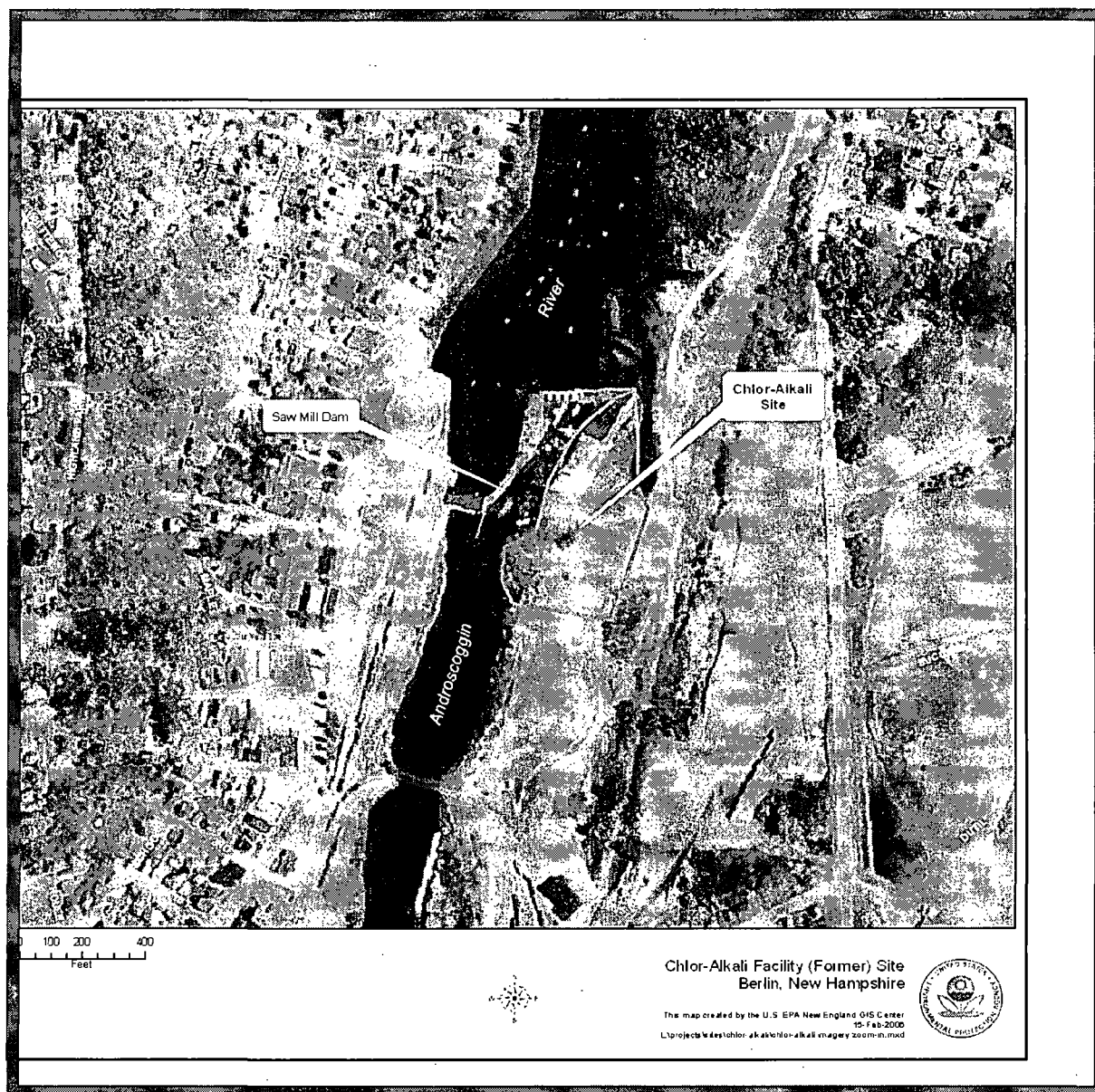
[http://www.wildlife.state.nh.us/Fishing/fish\\_consumption.htm](http://www.wildlife.state.nh.us/Fishing/fish_consumption.htm)

[http://www.des.state.nh.us/pdf/Mercury\\_Fish.pdf](http://www.des.state.nh.us/pdf/Mercury_Fish.pdf)

\*For more information about the hazardous substances identified in this fact sheet, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry web site at: [www.atsdr.cdc.gov/toxfaq.html](http://www.atsdr.cdc.gov/toxfaq.html) or call 1-888-422-8738

## Cleanup Activities to date

In 1999, Crown Vantage Paper Company, which then owned the Chlor-Alkali Facility, conducted closure activities intended to isolate contamination at the site from the surrounding environment. All remaining buildings on the property were demolished, a slurry wall<sup>1</sup> was constructed on two sides of the property, and an impermeable cap was constructed over most of the property. To address the mercury seeping through bedrock<sup>2</sup> cracks into the Androscoggin River, grout was injected into some of the bedrock cracks but visible mercury continues to seep into the Androscoggin River adjacent to the site. Between 1999 and 2004, the property owner (Pulp and Paper of America, LLC) and the New Hampshire Department of Environmental Services removed at least 135 pounds of mercury and mercury-containing sediments from the river and its bank.



<sup>1</sup> slurry wall: a concrete wall that runs from the surface of the ground down to bedrock

<sup>2</sup> bedrock: the solid rock beneath the soil and superficial rock. A general term for solid rock that lies beneath soil, loose sediments, or other unconsolidated material.

The following are the steps in the Superfund Cleanup Process:

**One:** A detailed study, the **Remedial Investigation**, is done to identify the cause and extent of contamination at the site and the possible threats to the environment and the people nearby. A **Feasibility Study** identifies various options for cleaning up the site. Typically the Remedial Investigation and the Feasibility Study take around two years to complete.

**Two:** EPA uses this information to develop and present a **Proposed Plan for Long-term Cleanup** to citizens and local and state officials for comment. The proposed plan describes the various cleanup options under consideration and identifies the option EPA prefers. The community has at least 30 days to comment and is able to discuss the plan with EPA during a public meeting.

**Three:** Once the public's comments are considered, EPA publishes a **Record of Decision**, which describes how it plans to clean up the site. A notice is also placed in the local newspaper to inform the community of EPA's cleanup decision.

**Four:** Next, the cleanup method is designed to address the unique conditions at the site where it will be used. This is called the **Remedial Design** and usually takes a year to complete.

The actual design and cleanup is conducted by EPA, the state, or by the parties responsible for the contamination at the site. When the design is completed, EPA typically prepares and distributes a fact sheet to the community describing the design details and how the cleanup will take place at the site.

**Five:** How long the **cleanup** actually takes depends on how complicated the extent of contamination is at the site. EPA will make sure the people living and working around the site are protected during the cleanup and in the future. EPA regularly monitors every Superfund site to make sure it remains safe.

## Who Pays for the Cleanup?

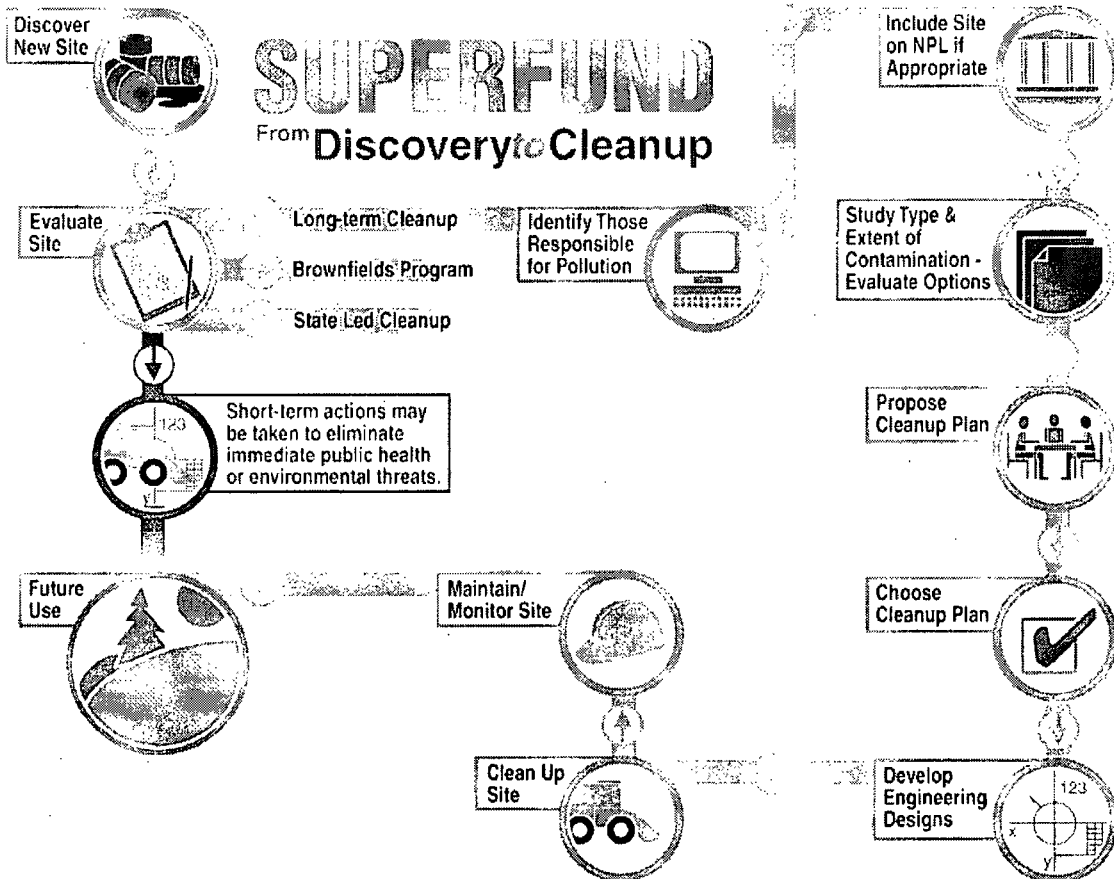
Superfund cleanups are either paid for by the people and businesses responsible for the contamination or by Federal and State governments. Under the Superfund law, EPA has the authority to make those companies and individuals responsible for the contamination to perform, and pay for, the cleanup at a site. EPA typically negotiates with the responsible parties to get them to pay for all the work that has to be done to clean up a site. If an agreement cannot be reached, EPA can issue orders to responsible parties to make them clean up a site under EPA supervision. If EPA uses Federal money to pay for cleanup, they will attempt to get the money back through legal action.

## What Assistance is Available to the Community?

EPA values your input and wants to help you understand the technical information relating to the cleanup of Superfund sites in your community so that you can make informed decisions.

Under the Superfund law, EPA can award Technical Assistance Grants (TAGs) of up to \$50,000 per site. TAGs allow communities to hire an independent expert to help them interpret technical data, understand site hazards, and become more knowledgeable about the different technologies that are being considered to cleanup a site.

Your community group may be eligible for a TAG if you are affected by a site that is or proposed to be added to Superfund. The EPA Community Involvement Coordinator can provide more information.



## For More Information Contact

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